

## THE SUN WILL CEASE.

A TIME MUST COME WHEN HEAT FROM THE SUN MUST CEASE.

Measuring Man's Days to Come—The Great Orb of Light and Life May Last 5,000,000 Years, but Not 10,000,000. The Secret of the Sun's Heat.

It seems to be worth while to collect together what may be said on the subject of the duration of life on the globe. It is a noteworthy fact that the possibility of the continued existence of the human race depends fundamentally upon the question of heat. If heat, or what is equivalent to heat, does not last, then man cannot last, either. There is no shirking this plain truism.

Of course it is obvious that the available heat generally comes from the sun. So far as the coal goes, we have already observed that as it is limited to quantity it can afford no perennial supply. Doubtless there is in the earth some quantity of other materials capable of oxidation or of undergoing other chemical change, in the course of which and as an incident of such change heat is evolved. The amount of heat that can possibly arise from such sources is strictly limited. There is in the entire earth just a certain number of units of heat possible from such combinations, but after the combination has been effected there cannot be any more heat from this source.

Then as to the internal heat of the earth due to the incandescent state of its interior. Here there is no doubt a large store of energy, but still it is of limited quantity, and it is also on the wane. This heat is occasionally copiously liberated by volcanoes, but ordinarily the transit of heat from the interior to the surface and its discharge from thence by radiation is a slow process. It is, however, sufficient for our present purpose to observe that slow though the escape may be, it is incessantly going on. There is only a definite number of units of heat contained in the interior of the earth at this moment, and as there are gradually diminishing, and as there is no source from whence the loss can be replenished, there is here no supply of warmth that can be relied on permanently.

It goes without saying that the welfare of the human race is necessarily connected with the continuance of the sun's beneficent action. If the sun ever ceases to shine, then must it be certain that there is a term beyond which human existence, or indeed organic existence of any type whatever, cannot any longer endure on earth.

But we have grounds for knowing as a certainty that the sun cannot escape from the destiny that sooner or later overtakes the spendthrift. In his interesting studies of this subject Professor Langley gives a striking illustration of the rate at which the solar heat is being squandered at this moment. He remarks that the great coal fields of Pennsylvania contain enough of the precious mineral to supply the wants of the United States for 1,000 years. If all that tremendous accumulation of fuel were to be extracted and burned in one vast conflagration the total quantity of heat that would be produced would no doubt be stupendous, and yet, says this authority who has taught us so much about the sun, all the heat developed by that terrific coal fire would not be equal to that which the sun pours forth in the thousandth part of each single second.

When we reflect that this expenditure of heat has been going on not alone for the centuries during which the earth has been the abode of man, but also for those periods which we cannot estimate except by saying that they are doubtless millions of years during which there has been life on the globe, then indeed we begin to comprehend how vast must have been the capital of heat with which the sun started on its career.

And yet we feel certain that the incessant radiation from the sun must be producing a profound effect on its stores of energy. The only way of reconciling this with the total absence of evidence of the expected changes is to be found in the supposition that such is the mighty mass of the sun, such the prodigious supply of heat, or what is equivalent to heat that it contains, that the grand transformation through which it is passing proceeds at a rate so slow that during the ages accessible to our observations the results achieved have been imperceptible. But the energy of the system is as surely declining as the energy of the clock declines as the weight runs down.

It seems that the sun has already dissipated about four-fifths of the energy with which it may have originally been endowed. At all events, it seems that, radiating energy at its present rate, the sun may hold out for 4,000,000 years, or for 5,000,000 years, but not for 10,000,000 years. Here, then, we discern in the remote future a limit to the duration of life on this globe. We have seen that it does not seem possible for any other source of heat to be available for replenishing the waning stores of the luminary. It may be that the heat was originally imparted to the sun as the result of some great collision between two bodies which were both dark before the collision took place, so that, in fact, the two dark masses coalesced into a vast nebula from which the whole of our system has been evolved. Of course it is always conceivable that the sun may be reinvigorated by a repetition of a similar startling process.

It is, however, hardly necessary to observe that so terrific a convulsion would be fatal to life in the solar system. Neither from the heavens above nor from the earth beneath does it seem possible to discover any rescue for the human race from the inevitable end. The race is as mortal as the individual, and, so far as we know, its span cannot under any circumstances be run out beyond a number of millions of years which can certainly be told on the fingers of both hands, and probably on the fingers of one.—Robert S. Ball in *Fortnightly Review*.

**Like a Hero.**  
An English civil engineer, Mr. Francis H. Grundy, relates what he calls "The short story of an unknown hero." "Bill, the banker," he was called, and even at the inquest over his body no other name was forthcoming.

He was only a poor navy; his usual place was at the top of a forming embankment, among the "tip wagons." During the building of the Manchester and Leeds railway he was top man over a shaft of one of the numerous tunnels which were being constructed on the line.

Here he met with a gloriously disastrous accident, and his conduct should be emblazoned in letters of gold upon the history of his country. He was only a navy, I say, and probably could neither read nor write.

The shaft was perhaps 200 feet deep, solid rock sides and bottom. His duty was to raise the trucks which had been filled below and run them to the tip, returning them empty to his mates at the bottom. If a chain broke, or a big boulder fell off the truck, he had to shout, "Waur out!" and the miners below crept farther into their "drives" and allowed the death dealing article to come down harmlessly.

One unhappy day Bill's foot slipped hopelessly, and he knew that he must be smashed from side to side of the narrow shaft, and landed a crushed mass at the bottom. But his mates? If he screamed the unusual noise would bring them out at once to inquire the cause.

He never lost his presence of mind. Clearly went down the signal, "Waur out below!" and his mates heard in safety the thud, thud, smash of his mangled remains.

**Disobedience Not Untruthfulness.**

A friend once told me that she did not know what to do with her little boy, four years old, who had for the last few days been telling all sorts of untruths, with no reason or sense in them. For instance, that morning she told him she did not want him to carry out, as he had been doing, his little basket of apples to share with his playmates, as the apples were nearly gone. Two or three hours after she heard his little feet on the cellar stairs. She went out, and saw him coming up the stairs with his basket of apples.

"Why, Eben, did I not tell you not to bring up any more apples for the children?"

"Yes'm," answered the little fellow, pursuing his way.

"Why do you bring them, then?"

"I'm not bringing them," said he.

"Is not that a basket of apples you have in your hand?"

"Yes'm."

"Well, then, you are bringing up apples, as I told you not to, are you not?"

"No, mamma," he said, with an honest expression of face.

She was shocked at his deliberate and stupid untruth, and also that he should seem so indifferent about it. The child was, and is now that he is grown, perfectly honest and truthful; but here was a phase of development when the refraction of mental rays produced this crooked result in his mind. The prime element of untruth is deception, and here was no intention to deceive.—*Harper's Bazar*.

**Duties of the Maid of Honor.**

She is going to be maid of honor at the wedding of one of her dear friends, and she wants to know what her duties are. Well, they are not very onerous. She walks alone, just ahead of the bride, in entering the church, or wherever the ceremony is to be performed. Her dress must be a little more elaborate than that of the bridesmaids, but not of course as rich as the bride's. When the altar is reached she stands just beside the bride, holding her bouquet. At the moment when the ring is to be assumed she hands the bouquet to the first bridesmaid, and assists the bride in taking off her glove. All this time the bride has been standing with her veil over her face, but just after the service is over, when the bride rises up after having been blessed, the maid of honor throws back the filmy cloud and the bride stands facing the bridegroom and ready for his kiss. The bouquet is then handed back to the maid of honor, by her given to the bride, and as the procession retreats she walks just behind the bride and groom, leaning on the arm of the best man.—*Ruth Ashmore in Ladies' Home Journal*.

**Not So Stupid.**

The overbearing ways of drill sergeants with new recruits are a familiar subject of gossip in the barracks of European countries.

On one occasion a recruit—a professional man—showed so little aptitude for military movements that the sergeant broke out at him:

"Blockhead! Are they all such idiots as you in your family?"

"No," said the recruit, "I have a brother who is a great deal more stupid than I am."

"Possible? And what on earth does this incomparable blockhead do?"

"He is a sergeant."—*Youth's Companion*.

**Savage Art True to Nature.**

Singularly enough, the primitive men in the caves of the Perigord, contemporaries of the mammoth and the musk ox in France, and the Bushmen, whose paintings Herr Fritsch discovered, only painted the animals known to them as truly as they could, while the comparatively highly civilized Aztecs outran all that is oriental in abominable inventions. It almost seems as if bad taste belonged to a certain middle stage of culture.—*Popular Science Monthly*.

**How He Preserved His Eyes.**

Old man Coons, of Jasper county, Mo., who is sixty years old and can read the finest print without glasses, says he has preserved his optics good by pressing the outside corners.—*Kansas City Star*.

**A Characteristic Felling.**

First Preacher—Does your choir sing in harmony?

Second Preacher—Yes; but they don't live in harmony.—*Kate Field's Washington*.

## A GAME WHERE THE WINNER LOST.

**We Won His Case, but He Made Up His Mind That There Was No Fun in It.**

It makes the man who would rather go to law than go on a good old time hay ride mad enough to lose a suit, but when he brings suit, wins his case, gets damages and then finds that he is out of pocket a fine round sum, he can give the ordinary man points and discount him besides at the Diogenes game of hating the world. One New Yorker got a taste of a legal dose the other day which is likely to make him hesitate about using the same prescription again.

He wanted damages from a man who he declared had injured his property. He wanted all the damages he could get too. He was earnest enough to insist that the damages ought to be run up in the thousands. Now if he had been contented to take his case into a district court this story would probably never have been written. But as he estimated his wrongs not by single, plain, everyday "cart wheel" dollars, but in blocks of 1,000 each, he was forced to take his suit into the court of common pleas. Everything went swimmingly for his side. His lawyer proved beyond a doubt that the defendant had caused damages to the plaintiff's property. The judge believed it, the jury believed it, in fact the defendant himself and the defendant's counsel believed it.

If ever there was a clear case of damages it was right there in the common pleas court. And so the plaintiff got a verdict for forty-nine dollars. But it is one thing to get a verdict and another thing to take what goes with it. It happened in this case that if the defendant received a verdict for less than fifty dollars he was liable for costs. He did not know much about law, and, though he was disappointed at the amount of the damages, he looked triumphantly at the other side. He was disgusted to see the calm smile on the face of the defendant's lawyer. But a moment later there was gnashing of teeth when his counsel told him about the costs.

"I have to pay the costs, do I?" he snarled.

"Yes."

"After I have won my case I have to pay costs for the other side?"

"That is the law."

"Well, it's a mighty nice law that makes the winner lose, ain't it? What do you think I went to law for? Do you think I wanted to spend money for fun? Do you think after that fellow has spoiled my property I want to pay him for doing it? What do you think I am, anyway—a muddled brained, cross eyed, half hearted lunatic? How much are the costs?"

"Three hundred and sixty dollars."

"Three hundred and sixty dollars! I win a case and get damages and lose \$311, do I? I can subtract the amount of the damage from the cost and make out a check for the balance, can I? Well, I suppose I can so long as I have to. But I want you to understand that the next time I go to law it will be because I am a candidate for a lunatic asylum. The next time I have you for a lawyer it will be when I'm the defendant in a case like this and want to lose."

"Do you hear?" he screamed. "When I want to lose I'll have you, I say, so that I can come out ahead of the game. And the next time a man damages my property I'll invite him to come in and knock the roof off the house. I'll have him use my piano for a toboggan on the hall stairs. I'll invite him to play a game of tennis in my dining room and will use my great-grandmother's tea service for pins, and if he wants to jump through our \$600 Japanese screen like a circus rider he can do it."

"Then maybe he'll want me to sue him, so that I can get stuck for costs again. And I'll sue him; oh, yes, I'll sue him!" and he snorted so loudly that the court usher's afternoon nap was disturbed.—*New York Tribune*.

**Bound to Use a "K."**

There was once in eastern Tennessee a judge well versed in the law, but entirely self educated, who had this same obstacle of orthography to contend with all his days. In early life he had lived in Knoxville, and for a long time insisted upon spelling the name *Noxville*. His friends at last educated him up to the point of adding the *K*; so thoroughly, in fact, did he learn this lesson that when a few years afterward he removed to Nashville, nothing could prevent him from spelling the name "*Knoxville*."

After a few years' residence there the judge moved again, this time to Murfreesboro. One day he sat down to write his first letter from this place. He scratched his head in perplexity a moment and finally exclaimed: "Well, I'll give it up! How in the world can they spell the name of this place with a '*K*'?"—*San Francisco Argonaut*.

**Needs of a Physician.**

The physician needs more mental diversion. It would be well for him to cultivate flowers, to study some science, or some department of history, literature or art, or to take up some simple mechanical occupation, to which he could turn from time to time for refreshment.

He needs more active exercise. It would be well for him oftener to substitute the bicycle for the carriage. He needs more sleep, too—fully seven hours—and as his sleep is often broken in upon at night, he should form the habit of sleeping at odd moments, even by day.—*Dr. Minot*.

**Newspapers Have Increased.**

The number of newspapers published in the whole United States thirty years ago was less than 5,000. Now the number of newspapers published in the region west of the Mississippi aggregates 5,509, of which number 3,123 are published west of the Missouri river.—*Edward Rosewater's Omaha Address*.

**One Way of Getting Rid of Sparrows.**

There are families in Germantown that have sparrow potpie frequently. They don't shoot the birds and fill them with shot, but trap them instead.—*Philadelphia Record*.

## Now is the time to buy your footwear.

EVERYBODY WANTS A NEW PAIR OF SHOES AND MUST HAVE THEM. WE HAVE JUST WHAT YOU WANT AT ALMOST YOUR OWN PRICE.

WE HAVE THE LARGEST AND MOST COMPLETE STOCK OF LADIES' MEN'S, MISSES' AND CHILDREN'S SHOES IN THE CITY. PRICES TO SUIT EVERYBODY.

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## SECOND ANNUAL STATEMENT

—OF THE—

Reynoldsville Building and Loan Association,

REYNOLDSVILLE, PA., APRIL 20, 1892.

### OFFICERS:

GEO. MELLINGER, President, A. G. MILLER, Secretary,  
S. REYNOLDS, Vice President, W. B. ALEXANDER, Treasurer.

### DIRECTORS:

GEO. MELLINGER, S. REYNOLDS, J. VAN REED,  
H. C. DEBLE, JOHN M. HAYS, NINIAN COOPER,  
W. B. ALEXANDER, A. G. MILLER, A. M. WOODWARD,  
W. S. ROSS, E. J. LOFTS, F. P. ADLSPERG,  
F. M. BROWN.

RECEIPTS.		DISBURSEMENTS.	
As per last report	\$24,382.52	As per last report	\$24,382.52
Balance in treasury	1,639.01	Loans	29,150.01
Amount from dues	25,910.00	Withdrawals	1,423.12
" " interest	2,853.50	Secretary's salary	284.46
" " fines	144.96	Solicitor's salary	150.00
" entrance fees	102.55	Safe	103.00
" transfers	12.50	Int. on advance payments	94.22
" insurance	7.00	Expenses	64.20
Re-payment of loans	671.62	Forfeited stock	4.50
		Insurance	22.00
		Balance in treasury	45.83
	\$55,723.86		\$55,723.86

ASSETS.		LIABILITIES.	
Mortgages	\$74,800.00	Value of stock	\$47,551.53
Furniture	115.80	Dues paid in advance	1,994.12
Books	108.15	Unearned premiums	22,594.43
Due from stockholders	745.32	Outstanding orders	406.25
" " secretary	40.28	Due on loans	719.83
Cash in treasury	45.83	Treasurer's salary	25.00
		Due for rent	10.00
		Assets over liabilities	2,553.47
	\$75,855.38		\$75,855.38

SERIES.	No. shares.	No. borrowed.	No. unbor- rowed.	Amount Paid in each share.	Withdrawal value.	Present value.	Earnings per share.	Total value.
First	1415	185	1230	\$24.00	\$25.44	\$27.47	\$3.47	\$35,997.60
Second	424	61	363	18.00	18.81	19.95	1.95	7,975.44
Third	174	57	117	12.00	12.36	12.86	.86	2,150.04
Fourth	238	80	158	6.00	6.00	6.21	.21	1,428.00
	2251	383	1868					\$47,551.68

Total number of shares	2,251
Undivided balance	\$12.27
Highest rate of premium	43
Lowest " " "	23
Average " " "	33.70-383

We the undersigned, Auditors, have examined the books of the Secretary and Treasurer of the Reynoldsville Building and Loan Association and find them as per the above report.

C. C. GIBSON,  
M. C. COLEMAN,  
B. E. HOOVER, Auditors.

## Shoe Department

We carry only reliable makes, and we could fill the one side of this issue with testimonials in regard to the wearing qualities of our shoes. What is termed among shoe dealers as cheap shoes, "for instance," shoes that sell for one dollar a pair, we do not handle, for the simple reason that goods of that kind will not build up our shoe department. We buy no shoes from what is called "Jobbers," but place our orders three and four months in advance, with the best shoe manufacturers in the country.

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Our dry goods department is full of spring fabrics, at prices lower than the lowest, and all we ask is that you give us a call and Compare Prices and Quality, don't forget the quality, as that goes a long ways as regards price. Quality first, price second.

J. B. ARNOLD.

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An endless variety on hand; always fresh. Try our fruit and chocolate cakes.

"Washburne's Best" leads the list; it's a dandy. Try it. We have in stock, "Our Best," "Straight," "Imperial," "N. W. Patent," "Pilgrim" and others.

We have no oil wagon on the road but we deliver you a 5 gal. best 150° oil for 50 cents. Get our rates on oil by the barrel.

A FULL STOCK of goods in our line always on hand. Highest market price paid for country produce.

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